NASA Glenn Safety Manual

CHAPTER 24 – FACILITY SAFETY AND HEATLH INSPECTION PROGRAM

Revision Date: 7/02 – Biannual Review

Table of Contents

24.1 Scope
24.2 Applicability
24.3 Definitions
24.4 Authority
24.5 Responsibilities
24.6 Safety and Health Inspections
24.7 Facility Inspection Data Base and Program Operations
24.8 Inspection of High Voltage Substations
24.9 Stop Work Authority
24.10 Bibliography

Appendix A Facility Inspection Matrix
Appendix B Basic Facility Safety and Health Inspection Flow Chart
Appendix C Detailed Facility Safety and Health Inspection Flow Chart
Appendix D Corrective Action Plan Template

24.1 SCOPE

This chapter identifies the types of facility safety and health inspections conducted at the Glenn Research Center (GRC), the frequency of these inspections, the composition of the inspection teams, and the responsibilities of the inspectors, management and the GRC Safety Office (GSO).

Facility safety and health inspections and follow-up corrective actions are an important aspect of the GRC mishap prevention program. Inspections are the principal means by which management and safety and health personnel can identify hazardous conditions, unsafe work practices, and other occupational safety and health issues. The program includes notification of responsible facility personnel and follow-up actions to ensure that corrective actions are taken. Facility inspections are a major effort to ensure compliance with applicable regulations of other Federal agencies exercising regulatory authority over NASA in specific areas (e.g. Department of Labor's Occupational Safety and Health Administration (OSHA) and the Nuclear Regulatory Commission).

24.2 APPLICABILITY

The provisions of this chapter are applicable to all Lewis Field and Plum Brook Station facilities of the NASA Glenn Research Center.

24.3 DEFINITIONS

Severity Code 1 Violation (Catastrophic) - Situation that if not corrected could result in death to a worker and/or a property loss greater than $500,000. This type of violation shall be corrected immediately once it is identified. Operations in the area of the violation shall cease until the situation is corrected (see Sec. 24.9, STOP-WORK AUTHORITY).

Severity Code 2 Violation (Critical) - Situation that if not corrected could result in a major injury or occupational illness and/or property loss between $250,000 and $500,000. This type of violation shall be corrected (or a corrective action plan submitted) within 7 working days from the date of notification of the violation. Immediate action shall be taken to prevent injury to personnel, or operations in the area shall cease until the situation is corrected (see Sec. 24.9, STOP-WORK AUTHORITY).

Severity Code 3 Violation (Moderate) - Situation that if not corrected could result in a minor injury or minor occupational illness and/or property loss between $1,000 and $250,000. This type of violation shall be corrected within 20 working days from the date of notification of the violation.

Severity Code 4 Violation (Minor): Hazardous condition may cause first aid injuries or occupational illness, and/or minimal damage to facilities, systems, or equipment. This may not affect personnel safety, but is a violation of specific criteria. First aid is any one time treatment, and follow-up visit for the purpose of observation, of minor scratches, cuts, burns, splinters, and so forth, which do not ordinarily require medical care. Such one-time treatment, and follow-up visit for the purpose of observation, is considered first aid even though provided by a physician or registered professional personnel. This type of violation shall be corrected within 60 working days from the date of notification of the violation.

Major Facilities - Those facilities that may have a high hazard potential (which is a function of hazards and operations) and/or high personnel-exposure risk (which is a function of level of occupancy, as well as potential fire/life safety concerns). Other facilities in a given area shall be identified as "minor" facilities, unless otherwise designated by the Chief of the GRC Safety Office (GSO).

24.4 AUTHORITY

The authority for the Facility Safety and Health Inspection Program is derived from the "NASA Safety and Health Program Policy", NPD 8710.2C.

24.5 RESPONSIBILITIES

Specific responsibilities of individuals or organizations are as follows:

24.5.1 GRC Safety Office

The GSO is responsible for administering the Facility Safety and Health Inspection Program. This includes scheduling all inspections, coordinating inputs from inspection teams, maintaining the Facility Inspection Data Base, issuing inspection violation notices to responsible individuals or organizations, tracking corrective actions to closure, and issuing periodic reports on safety and health violations. Responsibility for implementing the program at Plum Brook Station is delegated to the Plum Brook Management Office (see paragraph 24.5.5.)

Information concerning unsafe conditions, whether received through a report from an employee and verified, or as a result of a workplace inspection, will require the issuance of a Violation Notice.

24.5.2 Environmental Management Office (EMO)

The Environmental Management Office is responsible for providing the Facility Safety and Health Inspection Program with support and guidance on all occupational and environmental health concerns. The teams that are responsible for industrial hygiene, hazard communication, chemical safety and radiation safety will designate which facilities are critical to their programs and will participate in the annual inspection of those facilities. The EMO teams will ensure that those facilities are in compliance with all applicable regulations, standards and guidelines governing occupational and environmental regulations.

24.5.3 Safety Committees

Safety Committees conduct third-party reviews of all proposed installations, modifications, and operations in their assigned areas, to ensure that all systems meet minimum safety standards. Committees shall conduct an inspection of each permitted operational activity at least annually. As a minimum, this inspection shall verify that all information on the posted safety permit is current and that permit conditions are being followed. Inspection results shall be documented with a copy to the GRC Safety Office. Data from these inspections will be tracked in the Facility Inspection Data Base and unsafe conditions noted during these inspections will result in a Violation Notice issued by the GSO.

24.5.4 Facility Managers, Supervisors and Test Personnel

Facility managers, supervisors, and test personnel are encouraged to make periodic inspections of their areas or facilities. When safety or health concerns are observed or

reported, they shall immediately be brought to the attention of the GRC Safety Office. The GSO, after verification of the unsafe condition, will issue a violation notice to the appropriate management individual or organization responsible for bringing the issue to closure. Such items will be tracked in the Facility Inspection Data Base.

24.5.5 Plum Brook Management Office

The Plum Brook Management Office (PBMO) is responsible for implementing the Facility Safety and Health Inspection Program at Plum Brook Station. This includes scheduling all inspections, coordinating inputs from inspection teams, entering inspection data into the Facility Inspection Data Base, and tracking corrective actions to closure.

24.5.6 Directorate Point of Contact for Safety and Health Concerns

Per GRC senior management directive and in agreement with OSAT management, each Directorate Head shall appoint a Directorate Point of Contact for Safety and Health Concerns (Safety POC). The Safety POC shall serve as a directorate focal point for safety and health concerns noted in areas under the control of his/her directorate. The Safety POC has the responsibility to take appropriate actions to ensure that safety and health concerns are promptly addressed and corrected in a timely fashion, and to keep the GSO informed about planned corrective actions.

24.5.7 Building Managers

Building Managers are an integral part of the Facility Safety and Health Inspection Program. The Building Manager is requested to accompany the inspection team for all detailed facility inspections. Scheduled inspections will not be conducted without the participation of the Building Manager or the Building Manager's alternate or designated representative. As part of the inspection team the Building Manager supplies detailed knowledge of operations in the facility to aid the inspection team. In addition, a copy of each violation notice issued for the building is sent to the Building Manager with a request to post the violation notice in the building to fulfill OSHA requirements for making safety violation information available to building occupants.

24.6 SAFETY AND HEALTH INSPECTIONS

Basic safety and health inspections shall be conducted of all GRC Lewis Field and Plum Brook Station facilities. As a minimum, these inspections shall be conducted at least bi-monthly. In addition to the basic safety and health Inspections, depending on the criticality of each facility and the risks associated with the facility, a detailed safety and health inspection shall be conducted of each facility on a quarterly or annual basis. All facilities designated, as Major Facilities shall have a detailed inspection conducted quarterly. The criteria for determining the frequency of detailed inspection is contained in the NASA Safety Standard For Fire Protection", NASA-STD-8719.11 and NPG 8715.1, "NASA Safety and Health Handbook – Occupational Safety and Health

Programs". The frequency of inspection for all GRC facilities is shown in the "Facility Inspection Matrix", Appendix A. The GSO and EMO will review the Facility Inspection Matrix, at least annually, to ensure that the inspection frequencies are correct. Where facilities are required to be inspected on a quarterly basis, one of the quarterly inspections shall be designated as the annual EMO inspection for that facility.

24.6.1 Basic Safety and Health Inspections

Basic safety and health inspections are unscheduled inspections. These inspections have the purpose of identifying fire, life safety and industrial hygiene violations that tend to occur periodically in all NASA facilities. Basic safety and health inspections of all Lewis Field facilities shall be conducted by the First Responders/Safety Specialists. Basic safety and health inspections of Plum Brook Station facilities shall be conducted by the Plum Brook Station support service contractor. Basic safety and health inspections are not conducted at the thirteen main electric power distribution substations at the Lewis Field or at the seven main electric power distribution substations at Plum Brook Station. See paragraph 24.8 for substation inspection requirements. Entry into secure or hazardous areas shall be coordinated with responsible facility personnel to ensure that the inspections are performed in a timely and safe manner.

Refer to Appendix B, "Basic Facility Safety and Health Inspection Flowchart", for details of inspection procedures.

24.6.2 Detailed Safety and Health Inspections

Detailed facility inspections are scheduled inspections. The inspections are scheduled with the Building Manager. Detailed facility inspections shall be conducted by a team of people with the GSO or the PBMO Safety Engineer as the Lead. These inspections have the purpose of identifying more serious safety violations than the Basic Safety and Health Inspections. Examples include inoperable safety systems or safety systems whose calibration is out of date, missing or inadequate PPE, personnel unfamiliar with accepted safety procedures, etc.

The Building Manager will be requested to accompany the inspection team. Area Safety Committees are encouraged to participate and are notified of each scheduled inspection. The LESA and AFGE unions are also notified of the scheduled inspections and invited to accompany the inspection team. Entry into secure or hazardous areas shall be coordinated with the responsible facility personnel to ensure that the inspections are performed in a timely and safe manner.

Refer to Appendix C, "Detailed Facility Safety and Health Inspection Flowchart", for details of inspection procedures.

24.6.3 inspection Checklists

The GSO and EMO will review checklists used for facility inspections at least annually to ensure that revised OSHA requirements are incorporated in the checklists.

24.7 FACILITY INSPECTION DATA BASE AND PROGRAM OPERATIONS

The GRC Safety Office shall maintain a database of all facility inspection activities. This database shall be the main tool used to record violations noted during facility inspections and to track corrective actions to closure.

24.7.1 Database description

The Facility Inspection Data Base shall be a Microsoft Access database residing on the GRC Safety Office server. This database shall contain current and historic inspection data for all GRC Lewis Field and Plum Brook Station facilities. This database shall be the principal tool used to track facility inspection violations, generate violation notices and provide management reports pertinent to facility inspections.

24.7.2 Data Entry

All data will be entered into the Facility Inspection Data Base by GSO and PBMO personnel. Paper copies of inspection checklists and annotated Open Violation Reports shall be forwarded to the GSO or PBMO for entry into the database.

24.7.3 Violation Notices

Violation notices will be generated and distributed by the GRC Safety Office. The notices will be sent to the appropriate Directorate Safety POC for implementation of corrective actions. Copies of violation notices are also sent to the Building Manager for posting in the building where the violation was identified per OSHA requirements.

24.7.4 Violation closeout

When violations are corrected, the person designated by the Safety POC as the responsible person shall notify the GSO inspector who originated the violation requesting a re-inspection. An e-mail copy of this request shall be sent to: Safety-Office@grc.nasa.gov. This notification will constitute the "Customer Close Date" for violations. Upon verification of correction by re-inspection, the final violation "Close Date" will be entered, completing action on the violation.

24.7.5 Past due violations

Violations that remain open beyond the designated maximum time allowed for correction are "past due." Violations noted as past due are called to the attention of the Safety POC on a monthly basis. The Safety POC shall take action to ensure prompt correction of these violations. A violation that must remain open for an extended period for legitimate reasons may be approved by the GSO to be removed from the list of past due violations provided that a "Corrective Action Plan" is in place and that all health and safety hazards associated with the violation have proper safeguards in place. Examples of violations that may be allowed to remain open for extended periods are ones that require the corrective actions to be coordinated with future planned construction. All violations approved for an extended correction period will be tracked to closure in the "Facility Inspection Data Base."

24.7.6 Corrective action plans

A "Corrective Action Plan" shall be submitted for each violation that has been open for 30 days or more per OSHA 1960.0030.

The plan shall consist of an explanation of why the violation must remain open for more than 30 days, a proposed time table for the corrective actions to be completed, and a summary of steps being taken in the interim to protect employees from being injured as a result of the unsafe or unhealthful working condition. All "Corrective Action Plans" shall reference the Violation Number and shall be submitted via E-mail to: Safety-Office@grc.nasa.gov

See Appendix D for a "Corrective Action Plan" template. Please note that a plan shall be for a single violation. Multiple violations shall not be covered on one plan.

24.7.7 Reports

On a monthly basis, each Safety POC is furnished reports to aid in their support of the Facility Inspection Program. Monthly reports are provided showing open violations, violations closed during the previous month, and which buildings currently have no open safety violations.

On a monthly basis, Building Managers of buildings where violations were closed during the preceding month are furnished a report showing all violations for that building that were closed during the preceding month with a request that the posted copy of the violation report for those violations be removed.

On a monthly basis, a report showing the number of violations identified to date, the number of violations still open, and the number of open violations that are past due is prepared for presentation to the GRC Management Information Meeting (MIM).

24.7.8 Data Base Maintenance

The Facility Inspection Database is maintained on the GRC Safety Office Server. Files for this database are backed up daily by directorate IT support personnel. Other database maintenance is performed by GSO support service contractor staff.

24.8 INSPECTION OF HIGH VOLTAGE SUBSTATIONS

High voltage substations are controlled access areas and entry into these areas must be planned in advance. The Glenn Research Center has assigned responsibility for oversight of the high voltage distribution systems at the Lewis Field and the Plum Brook Station to the Electrical Applications Safety Committee (EASC).

Because of the controlled nature of these facilities, the Chief, GRC Safety Office has determined that facility safety and health inspections of substations will be conducted on an annual basis. In order to minimize the need for qualified safety personnel when entering these facilities, facility safety and health inspections of the high voltage substations are conducted in concert with the annual inspection of Lewis Field and Plum Brook Station substations by the EASC.

Violations noted during the inspection of substations shall be entered into the Facility Inspection Data Base and tracked to closure following procedures noted in this chapter.

24.9 STOP WORK AUTHORITY

Any member of the inspection team has the authority to shut down any situation that poses an imminent danger, as defined in Chapter 1 of this Manual, until an appropriate review can be made. Exercise of this authority requires immediate notification of the GRC Chief of the GSO, the chairman of the Executive Safety Board, and the chairman of the Area Safety Committee involved, as well as the chief of the EMO if there are health or environment related concerns. Areas or operations of questionable safety shall be referred to the GRC Chief of the GSO for resolution.

24.10 BIBLIOGRAPHY

- NPD 8710.2C NASA Safety and Health Program Policy
- NPG 8715.1 NASA Safety and Health Handbook Occupational Safety and Health Programs.
- NASA-STD-8719.11, NASA Safety Standard For Fire Protection.
- Public Law 91-596, Sec. 19. 1970. Occupational Safety and Health Act (OSHA), 1970. Federal Agency Safety Programs and Responsibilities

NASA Responsible Official: Manuel Dominguez
Web Curator: Deborah Ripley